

	Ref #	Hits	Search Text	DBs
1	S1	2	("4164505").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
2	S2	2	("6316645").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
3	S3	2	jp-03207824-\$.did.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
4	S4	6	("2350583").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
5	S5	2	("6160141").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
6	S6	2	("6420577").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
7	S7	2	("6414171").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
8	S8	2	("4393043").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
9	S9	3	"2001023259"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
10	S10	2	"20010023259"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
11	S11	880	octadecatrienoic adj acid	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
12	S12	126	S11 same (prepare or preparation or manufacture or manufacturing or separate or separating or purification or purify)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
13	S13	188	S11 and cancer	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
14	S14	83	S13 and (breast adj cancer)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
15	S15	133	S11 same conjugated	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

	Ref #	Hits	Search Text	DBs
16	S16	116	(554/126).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
17	S17	32	S16 and linolenic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
18	S18	627	(514/784).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
19	S19	49	S18 and linolenic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
20	S20	0	S17 and S19	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
21	S21	9	S16 and octadecatrienoic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
22	S22	6	S18 and octadecatrienoic	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
23	S23	1148	linolenic and (breast adj cancer)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB
24	S24	33	linolenic same (breast adj cancer)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB

10/567,419

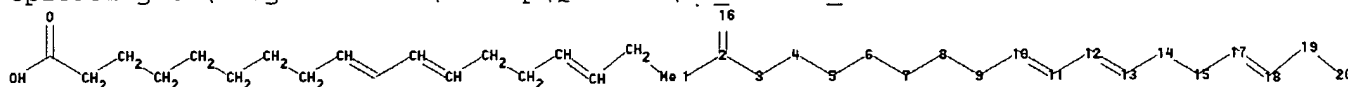
## /STN Search Report/

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=>

Uploading C:\Program Files\Stnexp\Queries\10\_567419\_1.str



chain nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

chain bonds :

1-2 2-3 2-16 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15

15-17 17-18 18-19 19-20

exact bonds :

2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-17  
17-18 18-19 19-20

normalized bonds :

1-2 2-16

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS  
10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS  
18:CLASS 19:CLASS  
20:CLASS

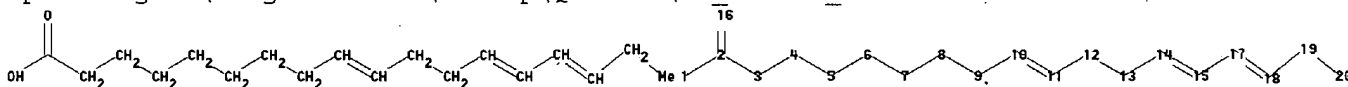
Stereo Geometric Centers:

13-12

L1 STRUCTURE UPLOADED

=>

Uploading C:\Program Files\Stnexp\Queries\10\_567419\_2.str



chain nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

chain bonds :

1-2 2-3 2-16 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15

15-17 17-18 18-19 19-20

exact bonds :

2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 14-15 15-17  
17-18 18-19 19-20

normalized bonds :

1-2 2-16

Match level :

1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS  
10:CLASS 11:CLASS 12:CLASS 13:CLASS 14:CLASS 15:CLASS 16:CLASS 17:CLASS  
18:CLASS 19:CLASS  
20:CLASS

L2 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS

L1 STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> d l2

L2 HAS NO ANSWERS

L2 STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s l1 sss sam

SAMPLE SEARCH INITIATED 15:29:54 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 87 TO ITERATE

100.0% PROCESSED 87 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 1181 TO 2299

PROJECTED ANSWERS: 0 TO 0

L3 0 SEA SSS SAM L1

=> s l2 sss sam

SAMPLE SEARCH INITIATED 15:30:07 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 87 TO ITERATE

100.0% PROCESSED 87 ITERATIONS

1 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 1181 TO 2299

PROJECTED ANSWERS: 1 TO 80

L4 1 SEA SSS SAM L2

=> d scan

L4 1 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
IN 9,13,15-Octadecatrienoic acid (7CI, 9CI)

MF C18 H30 O2

HO<sub>2</sub>C-(CH<sub>2</sub>)<sub>7</sub>-CH=CH-CH<sub>2</sub>-CH<sub>2</sub>-CH=CH-CH=CH-Et

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

ALL ANSWERS HAVE BEEN SCANNED

=> s l1 sss full

FULL SEARCH INITIATED 15:31:06 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 1574 TO ITERATE

100.0% PROCESSED 1574 ITERATIONS

3 ANSWERS

SEARCH TIME: 00.00.01

L5 3 SEA SSS FUL L1

=> s l2 sss full

FULL SEARCH INITIATED 15:31:32 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 1574 TO ITERATE

100.0% PROCESSED 1574 ITERATIONS

5 ANSWERS

SEARCH TIME: 00.00.01

L6 5 SEA SSS FUL L2

=> file caplus

=> d his

(FILE 'HOME' ENTERED AT 15:28:22 ON 03 FEB 2007)

FILE 'REGISTRY' ENTERED AT 15:28:44 ON 03 FEB 2007

L1 STRUCTURE UPLOADED

L2 STRUCTURE UPLOADED

L3 0 S L1 SSS SAM

L4 1 S L2 SSS SAM

L5 3 S L1 SSS FULL

L6 5 S L2 SSS FULL

FILE 'CAPLUS' ENTERED AT 15:31:59 ON 03 FEB 2007

=> s l5 and l6

24 L5

10 L6

L7 7 L5 AND L6

=> d ibib abs hitstr 1-

YOU HAVE REQUESTED DATA FROM 7 ANSWERS - CONTINUE? Y/(N):y

L7 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:384015 CAPLUS Full-text

DOCUMENT NUMBER: 144:411552

TITLE: Absorption and metabolism of conjugated  
α-linolenic acid given as free fatty acids or  
triacylglycerols in rats

AUTHOR(S): Plourde, Melanie; Sergiel, Jean-Pierre; Chardigny,

Jean-Michel; Gregoire, Stephane; Angers, Paul;  
Sebedio, Jean-Louis  
CORPORATE SOURCE: UMR INRA-ENESAD Flavic, Dijon, 21065, Fr.  
SOURCE: Nutrition & Metabolism (2005), 2, No pp. given  
CODEN: NMUEAZ; ISSN: 1743-7075  
URL: <http://www.nutritionandmetabolism.com/content/pdf/1743-7075-3-8.pdf>  
PUBLISHER: BioMed Central Ltd.  
DOCUMENT TYPE: Journal; (online computer file)  
LANGUAGE: English

AB Background: Conjugated linoleic acid (CLA) is a group of polyunsatd. fatty acids which have been extensively studied in the past two decades. However, conjugated octadecatrienoic acid such as cis-9,trans-11,cis-15 and cis-9,trans-13,cis-15, recently identified, have not been extensively investigated. This work presents bioavailability and tissue incorporation of a mixture of conjugated octadecatrienoic (CLnA) acids ingested as free fatty acids (FFA) and triacylglycerols (TAG). Results: Male Wistar rats were fed rumenic acid (RA: cis-9,trans-11 18:2) and a CLnA mixture (cis-9,trans-11,cis-15 18:3 and cis-9,trans-13,cis-15 18:3) as FFA and TAG for 8 days. RA and CLnA were both totally absorbed when given as FFA as well as TAG. Both isomers of CLnA as FFA or TAG were incorporated into neutral lipids. Metabolites up to 22:6 conjugated isomers were present in liver and plasma phospholipids of rats fed the CLnA diets. Conclusion: Finally, CLnA are as well absorbed as RA in vivo and their incorporation into tissues and bioconversion are similar when ingested as FFA or as TAG.

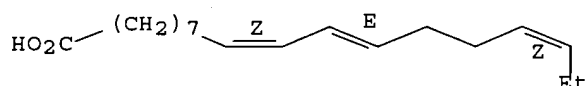
IT 15909-18-9 265108-52-9

RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(absorption and metabolism of conjugated  $\alpha$ -linolenic acid given as free fatty acids or triacylglycerols in rats)

RN 15909-18-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)- (9CI) (CA INDEX NAME)

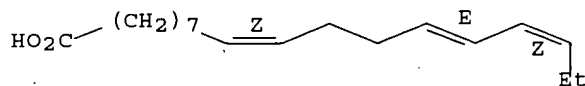
Double bond geometry as shown.



RN 265108-52-9 CAPLUS

CN 9,13,15-Octadecatrienoic acid, (9Z,13E,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2005:612077 CAPLUS Full-text

DOCUMENT NUMBER: 143:109809

TITLE: Use of conjugated linolenic acids for reducing body fat mass

INVENTOR(S): Garro, Juan-Miguel; Briand, Sandie  
 PATENT ASSIGNEE(S): Universite Laval, Can.  
 SOURCE: PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005063230	A1	20050714	WO 2004-CA2205	20041230
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: CA 2003-2454448 A 20031230

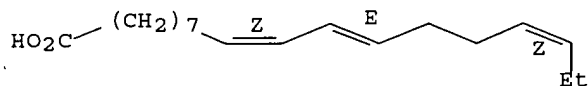
AB The invention discloses the use of conjugated linolenic acids selected from C18:3(9cis, 11 trans, 15 cis)octadecatrienoic acid, C18:3(9cis,13trans,15cis)octadecatrienoic acid, and mixts. thereof, in the reduction of body fat mass and in the treatment and/or prevention of obesity. These conjugated linolenic acids may be provided in the form of a food supplement or as a component of a prepared food product.

IT 15909-18-9 265108-52-9 844488-65-9  
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (conjugated linolenic acids for reducing body fat mass)

RN 15909-18-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)- (9CI) (CA INDEX NAME)

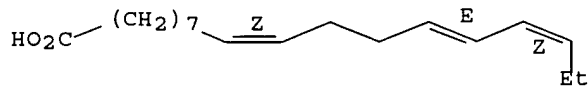
Double bond geometry as shown.



RN 265108-52-9 CAPLUS

CN 9,13,15-Octadecatrienoic acid, (9Z,13E,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 844488-65-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)-, mixt. with

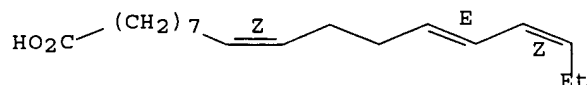
(9Z,13E,15Z)-9,13,15-octadecatrienoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 265108-52-9

CMF C18 H30 O2

Double bond geometry as shown.

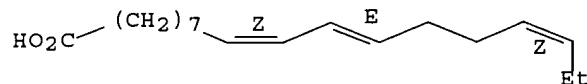


CM 2

CRN 15909-18-9

CMF C18 H30 O2

Double bond geometry as shown.



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN  
ACCESSION NUMBER: 2005:141007 CAPLUS Full-text  
DOCUMENT NUMBER: 142:212334  
TITLE: Conjugated linolenic acids and methods of preparation and purification and uses thereof  
INVENTOR(S): Garro Galvez, Juan-Miguel; Angers, Paul; Briand, Sandie  
PATENT ASSIGNEE(S): Universite Laval, Can.  
SOURCE: PCT Int. Appl., 65 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005014516	A1	20050217	WO 2004-CA1470	20040806
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			



CA 2436650	A1	20050206	CA 2003-2436650	20030806
CA 2534670	A1	20050217	CA 2004-2534670	20040806
US 2006281815	A1	20061214	US 2006-567419	20060821
PRIORITY APPLN. INFO.:			CA 2003-2436650	A 20030806
			WO 2004-CA1470	W 20040806

AB This invention relates to a new conjugated linoleic acids, a process for preparation thereof and method of use in treatment of cancer. Thus this invention is concerned with the preparation and purification of conjugated linoleic acids from materials rich in alpha or gamma linoleic acids. The reaction produces a mixture containing a 1:1 ratio of 9Z, 11E, 15Z-octadecatrienoic acid and 9Z,13E,15Z-octadecatrienoic acid. The mixture can be purified  $\leq 90$  % by liquid chromatog., crystallization or urea crystallization. The mixture of 1:1 9Z, 11E, 15Z-octadecatrienoic acid and 9Z, 13E, 15E, 15Z-octadecatrienoic acid have anticancerous activities.

IT 15909-18-9P 844488-65-9P, CLnA

RL: PAC (Pharmacological activity); PUR (Purification or recovery); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(conjugated linolenic acids and methods of preparation and purification

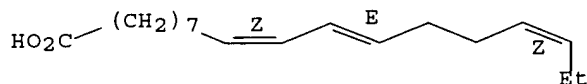
from

vegetable oils using bases and uses thereof for treatment of cancer and as drying oil in varnishes)

RN 15909-18-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 844488-65-9 CAPLUS

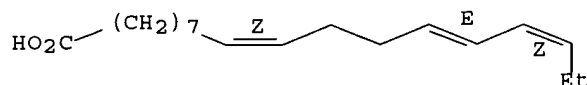
CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)-, mixt. with (9Z,13E,15Z)-9,13,15-octadecatrienoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 265108-52-9

CMF C18 H30 O2

Double bond geometry as shown.

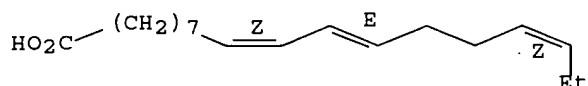


CM 2

CRN 15909-18-9

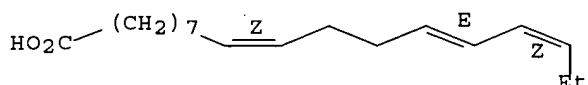
CMF C18 H30 O2

Double bond geometry as shown.



IT 265108-52-9P  
 RL: PAC (Pharmacological activity); PUR (Purification or recovery); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (mov,ediconjugated linolenic acids and methods of preparation and purification  
 from vegetable oils using bases and uses thereof for treatment of cancer and as drying oil in varnishes)  
 RN 265108-52-9 CAPLUS  
 CN 9,13,15-Octadecatrienoic acid, (9Z,13E,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2005:106639 CAPLUS Full-text  
 DOCUMENT NUMBER: 142:354576  
 TITLE: Metabolites of conjugated isomers of  $\alpha$ -linolenic acid (CLnA) in the rat  
 AUTHOR(S): Destailats, Frederic; Berdeaux, Olivier; Sebedio, Jean-Louis; Juaneda, Pierre; Gregoire, Stephane; Chardigny, Jean-Michel; Bretillon, Lionel; Angers, Paul  
 CORPORATE SOURCE: Department of Food Science and Nutrition and Dairy Research Center (STELA), Universite Laval, Sainte Foy, QC, G1K 7P4, Can.  
 SOURCE: Journal of Agricultural and Food Chemistry (2005), 53(5), 1422-1427  
 CODEN: JAFCAU; ISSN: 0021-8561  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Rumelenic acid (9-cis,11-trans,15-cis-CLnA) is a naturally occurring conjugated isomer of  $\alpha$ -linolenic acid (CLnA) in milk fat. The CLnA metabolism was studied in weanling male Wistar rats using synthetic CLnA mixture of equimolar quantities of 9-cis,11-trans,15-cis-CLnA and 9-cis,13-trans,15-cis-CLnA isomers. The CLnA mixture was fed at a high level of 150 mg/day for 4 days to rats that had been fed fat-free diet for 2 wk. After CLnA feeding, the liver and epididymal adipose tissue lipids were extracted and analyzed. Six metabolites of the 9-cis,11-trans,15-cis-CLnA and 2 isomers of 9-cis,13-trans,15-cis-CLnA were identified by GC-MS.  
 IT 15909-18-9, 9-cis,11-trans,15-cis-Octadecatrienoic acid  
 265108-52-9, 9-cis,13-trans,15-cis-Octadecatrienoic acid  
 RL: BSU (Biological study, unclassified); FFD (Food or feed use); BIOL

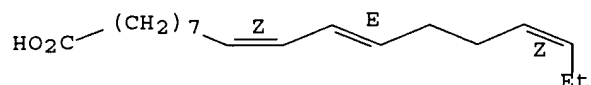
(Biological study); USES (Uses)

(dietary  $\alpha$ -linolenic acid conjugated isomers and their metabolites in liver and epididymal adipose tissue lipids of male Wistar rats)

RN 15909-18-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)- (9CI) (CA INDEX NAME)

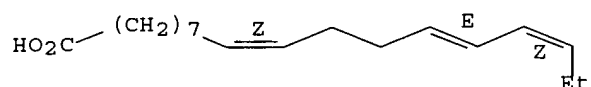
Double bond geometry as shown.



RN 265108-52-9 CAPLUS

CN 9,13,15-Octadecatrienoic acid, (9Z,13E,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2004:120813 CAPLUS Full-text

DOCUMENT NUMBER: 140:183581

TITLE: New conjugated linolenic acids and methods for their commercial preparation and purification

INVENTOR(S): Angers, Paul; Destailats, Frederic; Galvez, Juan Miguel Garro

PATENT ASSIGNEE(S): Universite Laval, Can.

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004013078	A1	20040212	WO 2003-CA1183	20030806
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2396840	A1	20040206	CA 2002-2396840	20020806
CA 2495532	A1	20040212	CA 2003-2495532	20030806

AU 2003281850 A1 20040223 AU 2003-281850 20030806  
 EP 1546082 A1 20050629 EP 2003-766097 20030806  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
 US 2006281814 A1 20061214 US 2006-523863 20060117  
 PRIORITY APPLN. INFO.: CA 2002-2396840 A 20020806  
 WO 2003-CA1183 W 20030806

AB A method for the preparation and purification of conjugated linolenic acids is described. The method comprises blending a mixture of vegetable oils and or fats including various concns. of alpha- or gamma- and/or both linolenic acids with a base. The method transforms approx. over two thirds of  $\alpha$ -linolenic acid (i.e., 9Z,12Z,15Z-octadecatrienoic acid) into 9Z,11E,15Z-octadecatrienoic acid and 9Z,13E,15Z-octadecatrienoic acid. The method also transforms gamma-linolenic acid (i.e., 6Z,9Z,12Z-octadecatrienoic acid) into 6Z,8E,15Z-octadecatrienoic acid and 6Z,10E,12Z-octadecatrienoic acid. In all cases, geometrical isomers and fully conjugated isomers are also produced.

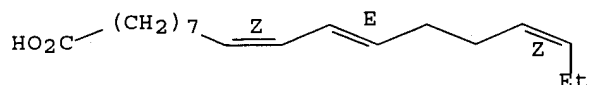
IT 15909-18-9F 265108-52-9P

RL: COS (Cosmetic use); FFD (Food or feed use); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (new conjugated linolenic acids and methods for their com. preparation and purification)

RN 15909-18-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)- (9CI) (CA INDEX NAME)

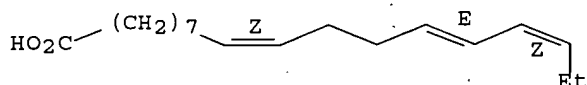
Double bond geometry as shown.



RN 265108-52-9 CAPLUS

CN 9,13,15-Octadecatrienoic acid, (9Z,13E,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:277951 CAPLUS Full-text

DOCUMENT NUMBER: 132:308188

TITLE: Synthesis of conjugated polyunsaturated fatty acids

INVENTOR(S): Sih, Charles J.; Chen, Chien-an

PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation, USA

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000023412	A2	20000427	WO 1999-US23669	19991012

WO 2000023412 A3 20000908

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,  
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IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,  
SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ,  
BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,  
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 6316645 B1 20011113 US 1998-175793 19981020

PRIORITY APPLN. INFO.: US 1998-175793 A 19981020

OTHER SOURCE(S): CASREACT 132:308188

AB The present invention provides a method of preparing conjugated polyunsatd. fatty acids, comprising of the steps of deprotonating a polyunsatd. fatty acid with a super strong bas, reprotonating the fatty acid to yield conjugated fatty acid isomers, and reacting the conjugated fatty acid isomers with a regioselective lipase to yield substantially pure stereospecific conjugated isomer. Thus, Schlosser base is added to a THF solution of linoleic acid, the crude product was dissolved in Et<sub>2</sub>O/MeOH and treated with diazomethane to give 77% Me 9-cis-11-trans-linoleate and Me 10-trans-12-cis-linoleate. The esters in acetone were purified with Lipase GC-4 (Geotrichum candidum Amano) in phosphate buffer.

IT 15909-18-9P, 9-cis-11-trans-15-cis-Octadecatrienoic acid  
265108-52-9P, 9-cis-13-trans-15-cis-Octadecatrienoic acid

RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis of conjugated polyunsatd. fatty acids)

RN 15909-18-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z) - (9CI) (CA INDEX NAME)

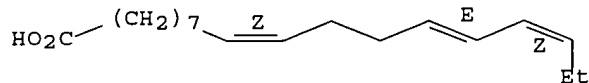
Double bond geometry as shown.



RN 265108-52-9 CAPLUS

CN 9,13,15-Octadecatrienoic acid, (9Z,13E,15Z) - (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1969:404751 CAPLUS Full-text

DOCUMENT NUMBER: 71:4751

TITLE: Comparison between the mechanisms of alkaline isomerization and autoxidation of polyunsaturated C18 fatty acids

AUTHOR(S): Strocchi, Antonino; Capella, Pompeo

CORPORATE SOURCE: Univ. Bologna, Bologna, Italy

SOURCE: Revue Francaise des Corps Gras (1969), 16(1), 3-13

CODEN: RFCGAE; ISSN: 0035-3000

DOCUMENT TYPE: Journal

LANGUAGE: French

GI For diagram(s), see printed CA Issue.

AB Studies of the alkaline isomerization of linoleic and linolenic acids are reported. In the system 1,4-pentadienoic acid, alc. and heat cause displacement of the double bonds towards the 1,3 and 2,4 conjugated positions. Alkaline isomerization of 9-cis-12-cis-octadecadienoic acid yields octadecadienoic acids with conjugated cis-trans double bonds. On the other hand, 9-cis-12-cis-15-cis-octadecatrienoic acid gives, at various stages of the reaction, octadecatrienoic acids with cis-trans conjugated double bonds and an isolated cis bond, octadecatrienoic acids with 3 conjugated double bonds (trans-trans-cis), and cyclic acids represented principally by 9-(2-propylcyclohexa-3,5-dienyl)nonanoic acid (I). The geometric isomerism of the conjugated double bonds of the products formed by the isomerization depend on the structure(s) of the intermediate carbanion resulting when the mol. state is transformed into a neg. ionic state. The results are pertinent to the reactions occurring during autoxidn. of linoleic and linolenic acids. 35 references.

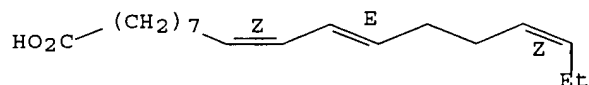
IT 15909-18-9F 25574-97-4P

RL: FORM (Formation, nonpreparative); PREP (Preparation)  
(formation of, from linolenic acid)

RN 15909-18-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)- (9CI) (CA INDEX NAME)

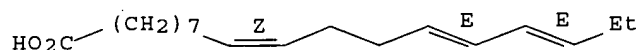
Double bond geometry as shown.



RN 25574-97-4 CAPLUS

CN 9,13,15-Octadecatrienoic acid, (Z,E,E)- (8CI) (CA INDEX NAME)

Double bond geometry as shown.



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(FILE 'HOME' ENTERED AT 15:28:22 ON 03 FEB 2007)

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L2 STRUCTURE UPLOADED

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L4 1 S L2 SSS SAM

L5 3 S L1 SSS FULL

L6 5 S L2 SSS FULL

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L7 7 S L5 AND L6

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

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        (15909-18-9/RN)
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=> s 25574-97-4
L2      1 25574-97-4
        (25574-97-4/RN)
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L3  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:      1969:404751  CAPLUS  Full-text
DOCUMENT NUMBER:       71:4751
TITLE:                  Comparison between the mechanisms of alkaline
                        isomerization and autoxidation of polyunsaturated C18
                        fatty acids
AUTHOR(S):              Strocchi, Antonino; Capella, Pompeo
CORPORATE SOURCE:       Univ. Bologna, Bologna, Italy
SOURCE:                 Revue Francaise des Corps Gras (1969), 16(1), 3-13
                        CODEN: RFCGAE; ISSN: 0035-3000
DOCUMENT TYPE:          Journal
LANGUAGE:               French
GI  For diagram(s), see printed CA Issue.
AB  Studies of the alkaline isomerization of linoleic and linolenic acids are
    reported. In the system 1,4-pentadienoic acid, alc. and heat cause
    displacement of the double bonds towards the 1,3 and 2,4 conjugated positions.
    Alkaline isomerization of 9-cis-12-cis-octadecadienoic acid yields
    octadecadienoic acids with conjugated cis-trans double bonds. On the other
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hand, 9-cis-12-cis-15-cis-octadecatrienoic acid gives, at various stages of the reaction, octadecatrienoic acids with cis-trans conjugated double bonds and an isolated cis bond, octadecatrienoic acids with 3 conjugated double bonds (trans-trans-cis), and cyclic acids represented principally by 9-(2-propylcyclohexa-3,5-dienyl)nonanoic acid (I). The geometric isomerism of the conjugated double bonds of the products formed by the isomerization depend on the structure(s) of the intermediate carbanion resulting when the mol. state is transformed into a neg. ionic state. The results are pertinent to the reactions occurring during autoxidn. of linoleic and linolenic acids. 35 references.

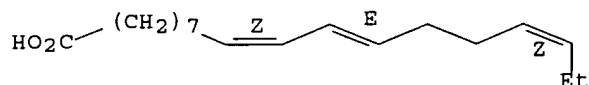
IT 15909-18-9P 25574-97-4P

RL: FORM (Formation, nonpreparative); PREP (Preparation)  
(formation of, from linolenic acid)

RN 15909-18-9 CAPLUS

CN 9,11,15-Octadecatrienoic acid, (9Z,11E,15Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 25574-97-4 CAPLUS

CN 9,13,15-Octadecatrienoic acid, (Z,E,E)- (8CI) (CA INDEX NAME)

Double bond geometry as shown.

